



Distance Learning: A Comparison of Classroom Students With Off-Campus Television Students

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The study summarized in this article was undertaken to increase the level of understanding of some of the issues associated with distance learning in higher education. We sought to do that by gathering and comparing direct feedback from both on-campus and off-campus students regarding discussion, attendance, and student assessment procedures. The students participating in the study were taking classes in the Department of Educational Leadership at Ball State University (BSU). The results will be of interest to those already involved in or considering a distance education initiative.

Background

Today's universities no longer expect their undergraduates to be 17 to 21 years old and their graduate students to be a few years older. The student population has changed over the years with many older adults attending universities and urging the universities to provide instruction in ways that would have been unheard of a few years ago. "Working adults want education delivered direct to them, at home or the workplace.... Preparation may be weaker than among conventional students; motivation may be stronger" (Jones &

Pritchard, 1999, p. 56). These new methods of delivery include television and the Internet, both of which allow students to access coursework miles from the traditional campus classroom. Thorpe (2000) reported that one course offered over the Internet recruited "over 9,000 students in February and another 4,000 in May" (p. 11). While this may not be typical of the student enrollment in most distance learning courses, it does indicate that instruction will have to change and that assignments will need to be more tailored to a population that is not on campus. The population of the distance learning format means that college instructors will increasingly encounter classes that are much larger than the traditional graduate level class. Not all courses are ideal for distance learning, and decisions regarding which courses are selected for distance education need to be carefully considered. It is one thing to offer a course via distance education because this method of delivery will not harm the content and may, in fact, enhance it. It is quite another to schedule a course for distance education simply because there will be a large market for that particular course. As Lamb and Smith (2000) pointed out, "The distance education environment tends to exaggerate both the positive and the negative aspects of all the elements of instruction" (p. 13). Kelly (1990) mentioned that instructors must develop new skills for distance education teaching in the areas of timing, teaching methods, feedback from students at remote sites, and the evaluation of students. Student assessment, in particular, provides many challenges to those involved in distance education.

Because of the differences between traditional instruction and distance education, it is important, whenever possible, to determine the effectiveness of the new methods of delivery and periodically compare them to traditional campus classroom instruction. Swan and Jackman (2000) discussed Souder's 1993 comparison of distance learners with traditional learners, stating that the distance learning students "performed better than the host-site learners in several areas or fields of study, including exams and homework assignments" (p. 59). Citing the limited number of studies comparing different methods of instruction, Swan and Jackson looked at remote-site and home-site students at the secondary school level. They

found no significant differences in student achievement between the two sites when comparing grade point averages.

In keeping with this need to compare students in traditional classrooms and students at remote-site locations, we decided to compare the perceptions of our students in two different traditional classroom courses with students who took the same courses via television.

Methodology

As professors in the Department of Educational Leadership at BSU in Muncie, Indiana, we surveyed graduate students in our School Finance and School Principalship classes. Of these students, 12 in the finance class were in a studio classroom, with 89 taking the course on television at 42 off-campus sites around the state of Indiana. In the principalship course, 25 students were in the studio and 60 were at 22 remote television sites. The purpose of the survey was to see if there were any different points of view regarding the questioning format, attendance, and assessment procedures between the studio groups and the groups at the remote sites. We also wanted to collect data regarding any technological problems and about the students themselves and their backgrounds.

These courses utilized the following format: Finance class—one class for four hours, twice a week, for five weeks, with all students (on-campus and off-campus) taught at the same time; Principalship class—four hours, twice a week, for five weeks for one class and four hours for 10 consecutive weekdays for the other class. All of the on-campus and off-campus students in the principalship class were taught at the same time for each of the two classes.

Students at BSU complete course evaluations at the end of each course. The survey for this research study was added to that evaluation form so that all students would complete the survey. In accordance with the policy on evaluations, the studio groups were given the forms by another student, with the professor outside the classroom, and the evaluation/survey forms were returned to the department office by the student, where the forms were scored by a secretary. The results were not given to us until after final grades were submitted. Proctors at the remote sites distributed surveys to the students to complete and mailed them back to the office for scoring. Thus, every student in atten-

Table 1. Prior Experience With Television Classes

No. of Previous Classes	Studio Students	Off-Campus Students
0	30.6%	42.6%
1	22.2%	23.3%
2	19.4%	14.7%
3	16.7%	6.2%
4 or more	11.1%	13.2%

dance completed a survey.

The results of the surveys for this study were then entered into a computer at BSU, and SPSS 10.0.2 was used to obtain a frequency analysis of the data from the surveys.

Results and Discussion

One thing that we wanted to learn was the extent to which these students had experience with television classes. For example, the attitude of the on-campus students towards the off-campus arrangements (taking time for attendance, discussing technological problems, etc.) could be affected if they had also utilized these off-campus classes in the past. We also wanted to know the total amount of experience that the students had had with television classes to see how popular this format was for these students (see Table 1).

The majority of students in both groups had prior experience with television classes, and some students had extensive experience. The students in the studio classroom had more experience than those taking the courses at the off-campus television sites. This may help explain why the majority of on-campus students were generally understanding regarding interruptions from off-campus sites.

The technology enabled students at the remote sites to push a button to "dial in" to talk to the professor during class. When someone "dialed in," a beep would sound in the studio classroom indicating that someone was calling. In discussing live television classes with other instructors, we were told that one common

problem was that the students would call in without warning (unlike students raising their hands in class) and interrupt the flow of the class for all the other students and the instructor. Since we wanted to avoid this problem and still give students the opportunity to ask appropriate questions during class, both of us told students that they could only call in to ask questions during designated question and answer times. In the finance class, the on-campus students were asked to follow the same rule (though some forgot from time to time), whereas the professor for the principalship class allowed on-campus students to ask questions without waiting for a prompt from him. Since this "waiting for permission to ask questions" was so different from the usual graduate classroom routine, we wondered how the students would accept this new procedure. In our classes, the students cooperated and were very good about not calling into the studio until we asked for questions or called on students to call in to answer questions that we had posed. In the survey, we asked the students for their opinion on this "no call-in" rule. The results indicated that 82.1% of the studio students said that this rule was reasonable due to the class size, and 83.5% of the remote site students agreed. This was gratifying to us because we felt that the rule worked very well but were concerned that the students would find it objectionable.

Since these phone calls from the remote sites, when they did occur, would make a buzzing noise followed by a "voice from the sky," the studio students were asked if they were bothered by these call-ins. Findings indicated

that 66.7% of the campus students said that it was never true that it bothered them, and 30.6% said that it was sometimes true. So, even though calls were restricted, some of the studio class students (30.6%) were bothered by calls from the off-campus sites.

As in most classes, attendance was taken. However, the size of the classes meant that attendance took longer to take. This process was sometimes done early or at break time or during questions and answers. The students were asked whether it was still appropriate to take attendance in these large classes. In the studio class, 76.7% said that attendance should be taken, whereas 56.0% of the remote-site students felt that taking attendance was appropriate. Some off-campus students may have noted the possibility of being absent without being noticed or they may simply have been less patient with the lengthy attendance-taking process.

Another change from the traditional classroom was the way in which students were tested. While some previous television class students had been required to come to campus for mid-terms and final examinations, we felt that this defeated the purpose of having students take the course at various sites throughout the state. As a result, there were two other options: We could use the usual pencil and paper examination and mail them to the remote sites where a proctor would supervise the exams and return them by mail, or we could put the exams on the Internet and students could take them by computer. The first had the advantage of security/supervision but entailed the mailing of exams to the proctors and then back to the campus where the exams had to be graded by hand. The computer method of examination provided an electronic time limit after which the student could no longer answer any questions. Also, the computer exam would immediately be graded electronically so that the instructor and student would have immediate feedback. One of the drawbacks was that there was no supervision of the student who could take the exam at home or at any Internet site during the specified time.

Both methods were used in this study. The students in the School Finance class were sent written examinations for both mid-term and final exams, whereas the students in the School Principalship classes were given computer exams. When the students were asked whether

they preferred the way they were examined or whether they would prefer the alternate method, students in both classes preferred the way they were tested, even though they were tested in different ways. For the studio class taking a paper test (finance class), 100% said that they would prefer a paper test; for the off-campus students taking a paper test, 79.5% said that they liked that method. For the studio classes that took their exams on computer (principalship class), 68.2% said that they would prefer the computer for taking exams; for the off-campus students taking the computer test, 91.9% said that they would prefer that method. This seems to suggest that either way is acceptable to students. Since access to computers was the same for all students and since paper tests could have been used for all students, it seems that students simply preferred what was familiar to them.

Since there is always the possibility of technological problems when broadcasting a class to many students at numerous sites around the state and using computers and the Internet for the courses, we surveyed the students about these problems. Students attending class in the studio were not required to use technology to ask questions or talk with the us before or after class, and they did not lose picture or sound when weather conditions worsened. If any studio students had been adverse to technology, it would not have affected these aspects of their class. For off-campus students, however, the same limitations mentioned could cause problems for them.

Each of us established a Web page where students could obtain course information: the syllabus, handouts, additional Web sites, and their grades on exams (whether or not they took paper or computer exams). Students utilized a code and password to navigate some menus to reach this information. When asked if they "got the page," 71.4% of the studio students said that they had no trouble in getting it, while 79.8% of the off-campus students responded in the same way. Only 11.4% of the studio and 0.8% of the remote students never tried to locate the Web page. This indicates that while most students tried to locate the Web page, the instructors may have to spend more time in future classes to demonstrate how this is done since over 20% did have trouble locating the Web page (28.6% of studio; 20.2% of off-campus students).

The television system sends out video and

audio signals via satellite to schools or other facilities equipped to receive them. Besides the possibility of mechanical breakdown, stormy weather can also cause problems in the transmission, and these courses were given in the summer when such storms could be anticipated. When asked about problems with the audio and/or video, 58.9% of the off-site students said that the system worked all the time, 32.6% said that it sometimes did not work but was not a problem, and 8.5% said that it did not work a lot of the time and was a problem for them.

Students were provided a phone number to call for help when there were serious problems. It was reassuring to know that over 90% felt that they did not have a real problem with the television technology.

As mentioned earlier, students at the remote sites could call in for attendance or questions/answers on a phone system by pushing a button on a special phone at their site. This phone system worked all the time for 65.6% of the students, sometimes did not work but was not a problem for 29.7%, and did not work a lot of the time and was a problem for 4.7% of the students. For example, one student mentioned that there was roof work being done on the school where he was attending class and that the phone system never worked during the course. As noted earlier, students were given a regular phone number to call into the television studio director's office and report problems with their special phones or problems with the television system. The director then notified us during the class and noted whether this was an isolated case or whether there were other sites that were having problems. Although 60.9% of the students did call into the studio to report technical problems, previously mentioned findings indicate that their outages were not considered a problem for most of them (58.9% had no problem; 32.6% did not consider the glitches a problem, as stated earlier).

In the event that the television signal was lost, students could request videotapes of the sessions that they missed. There was no cost for this service if technical problems caused them to miss all or part of a class. These off-campus students were asked if they ever had to order tapes of the presentations because of technical problems. The responses indicated that 10.2% ordered one tape, 1.6% ordered more than one tape, and 88.3% did not have to order any tapes.

So, again, it appears that technical problems, though present at times, were not a major problem for the vast majority of the students, and there were provisions made for those who did have problems.

We wanted to know about the gender of the students and their background. Previous researchers have sometimes stated that females had more problems with technology than males, and we wanted to see if females tended to take the on-campus class or the off-campus class or whether there was any difference in their choices. Also, we wanted to know what percentage of the class was classroom teachers and how many students taking these administrative courses were already school administrators. Finally, since recruitment of students is important to a department's survival, we wanted to know if we had students in our classes who were actually in programs at other universities and took our course out of convenience. So, questions were asked to gather information about the students themselves: gender, whether they had been BSU students in the past, why they took the course, and how they found out about the course. Regarding gender, the studio students were 67.6% female, whereas 45.7% of the off-campus were female. In the studio class, 61.8% of the students were classroom teachers and 29.4% were school administrators. At the remote sites, 68.2% were teachers, with 23.3% administrators. While the statistics on gender do not indicate why the students chose on-campus or off-campus classes, it is worthy to note that females did select the on-campus class more than the off-campus sites. This is an area for further research.

When the students were asked about their degree programs, 89.2% of the studio students stated that they had been admitted to a BSU degree program. Off campus, 70.5% were BSU students, with an additional 21.7% taking the course for certification only and not part of any BSU degree program. As expected, the course was being taken to meet a degree requirement, an administrative certification, or both. When asked about the reason for taking the course, 100% of the studio students and 97.7% of the remote students stated that it was a required course for a degree and/or certification. When asked if they already had a degree from BSU, 80.6% of the studio students had at least one degree from BSU, whereas only 35.2% of the

off-campus students had a degree from BSU. This was important to us because it demonstrated that the television courses attracted more than just BSU students. These students may have been taking the course because it was not available from another Indiana university, or they may have just needed the course for administrative (principal) certification from the state. This expanded student market, made available by distance learning, impacts professional staffing level requirements and provides valuable exposure for the university to potential new students.

Other questions were asked to determine the reasons they chose this particular method of course delivery. The studio students were asked if they would have preferred to have taken the course off campus instead of coming to the studio. Although 30.6% said that this was sometimes true, 69.4% stated that it was never true. The students who took the course off campus did not have to pay student fees (recreation, library use, sports and musical tickets, etc.) and only paid tuition for the three-hour graduate course. Students on campus had to pay the full tuition and fees amount. When we asked the off-campus students the advantage of taking a course on television, 100% said that it was for convenience. No one chose the option stating that it was cheaper than on campus. In fact, 53.9% said that they did not even know that it was cheaper than taking it as a campus class. An important question for the off-campus students was the following: "Considering the advantages and the disadvantages of a television course, would you take another one if it was something that you needed and it was at a convenient site?" Responses indicated that 96.1% would take another course. Clearly, the advantages outweighed the disadvantages for these students.

We had been told by other professors with television teaching experience that we would receive lower student evaluations from the off-campus students as compared to the evaluations from studio classes. When asked if we did a good job of explaining the course concepts and problems, 80% of the studio students said that we did, whereas 81.3% of the off-campus students felt this way. However, when the evaluations were completed, both of us were rated slightly higher overall by the studio students than we were by the remote site students.

Finally, although it is difficult to define or judge "success" or "achievement" in a course, we did compare the final grades of the campus classes with the remote site students in the finance class. Since the two subjects (finance and principalship) were very different, the examination methods were different, and classes were taught by two different professors, we did not attempt to combine or compare grades in the two subjects. In looking at the finance class, we found that students off campus achieved higher final grades. For example, the 12 students in the classroom had an average final grade of 3.25 (on a 4-point scale), whereas the 89 remote site students averaged 3.63 for their final grades. This should be interpreted carefully since there were only 12 students in the campus classroom, and the students at the remote sites may have been "better students" academically. It seems fair to say that the off-campus students did not suffer academically for having taken the course by television.

Conclusion

The study found that our students had prior experience with television classes, with some students having had extensive experience. The "no-call-in" rule was considered reasonable by the students, and most of the on-campus students were not bothered by the phones ringing from the off-campus sites. Taking attendance took quite a bit of class time, but students, especially those on campus, felt that this process was appropriate. When asked about testing, students preferred whatever method they had been given, whether it was a paper test or a computer test. From time to time, there were problems with the technology, but these problems were not major for most students. Students other than BSU students took the television courses, pointing out potential recruitment benefits of this method of instruction. And, when asked the reason that off-campus students took the course by television, the overwhelming reason was convenience, driving to a nearby site instead of going to campus. Overall, the results seemed positive for our off-campus students: They received the same instruction as campus students for a lower cost (as compared to campus tuition), with no major technological problems, and at a convenient location. And, the on-campus students seemed to accept well the various technological requirements necessary for our off-campus students.

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